REMARKS

Claims **116-163** are pending.

Claims **116-163** stand rejected.

Claims **120, 122, 131, 134, 141, 144, 150, 152, 159** and **161** have been amended.

No claims have been cancelled or added.

Rejection of Claims under 35 U.S.C. § 103

Claims 116-162 stand rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over U.S. Patent No. 6,438,542 ("Koo") in view of U.S. Patent No. 6,523,028 ("DiDomizio"). Applicants respectfully traverse this rejection.

Applicants respectfully note that the previous Response to Office Action (filed on November 10, 2010) set forth various arguments which the current Office Action ("Office Action") does not fully address, alleging that the Applicants are "attacking references individually where the rejections are based on combination of references." Applicants respectfully disagree with these allegations. However, in order to expedite prosecution Applicants are presenting new arguments herein that overcome the rejections presented in the Office Action.

Applicants respectfully submit that Koo and DiDomizio, alone or in any rational combination, fail to teach or suggest all the elements of claim 116, including:

(1) "automatically generating, using a processor of the computer system, a set of SQL statements to query the first table and the second table, wherein

the set of SQL statements are based, at least in part, upon the at least one SQL statement,

the first table and the second table are stored in a computer-readable storage medium of the computer system,

the automatically generating uses a relationship between the first table and the second table to generate the set of SQL statements, and

the set of SQL statements comprises SQL statements other than the at least

one SQL statement,"

(2) "producing a first result set by querying the first table using the set of SQL statements, wherein

the querying the first table is performed using the processor;

producing a second result set by querying the second table using the set of SQL statements, wherein

the querying the second table is performed using the processor, and

the querying the first table and the querying the second table are performed without joining the first table and the second table,"

and/or

(3) "joining... the first result set and the second result set to produce a third result set."

Independent claims 128, 137, 146, 155, and 156 recite comparable limitations.

(1) Koo and DiDomizio Fail to Teach or Suggest Automatically Generating a Set of SQL Statements Based Upon a Received SQL Statement to Query the First Table and the Second Table

Applicants respectfully submit that Koo and DiDomizio, alone or in any rational combination, fail to teach or suggest all the elements of claim 116, including automatically generating a set of SQL statements based upon a received SQL statement, which are then used to query the first table and the second table in separate operations. First, among other deficiencies of Koo, Applicants submit that Koo does not teach or suggest the element of:

(1) "automatically generating, using a processor of the computer system, a set of SQL statements to query the first table and the second table, wherein

the set of SQL statements are based, at least in part, upon the at least one SQL statement,

the first table and the second table are stored in a computer-readable storage medium of the computer system,

the automatically generating uses a relationship between the first table and the second table to generate the set of SQL statements, and

the set of SQL statements comprises SQL statements other than the at least one SQL statement,"

Koo is directed to optimizing a database query by analyzing the query to identify any joins within the query that are lossless and any tables of the identified joins that are eligible for removal. *See* Koo, Abstract. Koo teaches to rewrite an original query to eliminate one or more tables used in that original query. *See* Koo, Abstract. Koo identifies tables that are eligible for removal by characterizing the type(s) and characteristic(s) of joins present in the original query. *See* Koo, 5:26-34. The rewritten query then can be used to access only the tables that are remaining. *Id.*

Applicants submit hat Koo does not teach or suggest "automatically generating… a set of SQL statements to query the first table and the second table, wherein the set of SQL statements are based, at least in part, upon the at least one SQL statement." For example, for two database tables, Koo's query optimization does not automatically generate a set of SQL statements to query the first table and the second table, as claimed. Instead, Koo is directed to optimizing a query by identifying one or more table(s) that can be removed prior to performing the query, and then rewriting the query into a simpler form. In other words, Koo teaches eliminating portions of a given query in order to produce an optimized query. In accordance with the example above, Koo teaches removing one of the two tables and then generating a query to query only the remaining table. Thus the single query generated by Koo only queries one table (the first table), whereas claim 116 recites automatically generating a set of SQL statements to query two tables - the first table and the second table.

The Office Action on page 3 agrees with the Applicants and does not cite Koo for the claim element of "automatically generating a set of SQL statements to query the first table and the second table, wherein the set of SQL statements are based, at least in part upon the at least one SQL statement." The Office Action cites DiDomizio for this element, citing column 6, line 60 – column 7, line 6 for this element. However, the Office Action does cite Koo for a related element of "wherein… the automatically

generating uses a relationship between the first table and the second table to generate the set of SQL statements." Applicants find this particular citation peculiar, since as argued above, Koo uses relationship(s) between a first table and a second table only to remove one of the tables from a query that is being generated.

Therefore, a combination of Koo with any other reference can logically only teach to eliminate either the first table or the second table from the query that is being generated, and thus this combination cannot teach generating a set of SQL statements that access both first and second tables. Any other use of Koo would make the system of Koo inoperable. Put another way, any rational combination of Koo (which teaches to use relationship(s) between a first table and a second table to remove one of the tables from a query that is being generated) with any other reference that teaches querying two tables can only teach eliminating either the first table or the second table from the query that is being generated. A modification of Koo to generate a set of SQL statements that access both first and second tables would render Koo unsatisfactory for its intended purpose. Per MPEP 2143.01 (V), a modification of the cited art cannot render the cited art unsatisfactory for its intended purpose. Therefore, this modification being proposed by the Office Action cannot be done, i.e., "there is no suggestion or motivation to make the proposed modification." *See* MPEP 2143.01 (V), citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Therefore Koo does not teach or suggest at least these features of claim 116.

DiDomizio does not remedy the deficiencies of Koo. DiDomizio is directed to a system that allows a user to access multiple databases, where each database may have a different structure. *See* DiDomizio, Abstract. In DiDomizio's system, a user is presented with an interface for the user to enter unstructured, English-language keyword search. *See* DiDomizio, 4:7-29. DiDomizio's system then generalizes the unstructured search to query a plurality of databases with potentially matching tables. *See* DiDomizio, 4:30-62. DiDomizio's system then presents the user with results from the initial database queries, and the user selects the relevant components from which the final, results-producing database query will be created. *See* DiDomizio, 4:56-61, 9:22-26, and Figs. 5 and 6, among others.

However, DiDomizio also does not teach or suggest "automatically generating a set of SQL statements to query the first table and the second table, wherein the set of SQL statements are based, at least in part upon the at least one SQL statement." Instead, DiDomizio teaches creation of a database query that is accomplished by user-directed selections of the components from which to create the database query. In other words, DiDomizio teaches a manual process of generating a query, which is contrary to the automatic generation of the set of SQL statements of claim 116.

Furthermore, automatic generation aside, DiDomizio does not appear teaches generating a set of SQL statements that are based at least in part upon the at least one SQL statement. Even assuming, for the sake of argument, that Koo can somehow be successfully characterized as teach receiving the "at least one SQL statement" (though a point Applicants do not concede), a combination of Koo and DiDomizio still does not teach generating a set of SQL statements, but rather generating a single final query. Still further, as argued above, a combination of Koo and DiDomizio does not teach or suggest "automatically generating a set of SQL statements to query the first table and the second table, wherein the set of SQL statements are based, at least in part upon the at least one SQL statement," where the automatically generating uses a relationship between the first table and the second table to generate the set of SQL statements. Thus, alone or in combination with Koo, DiDomizio does not teach or suggest at least these features of claim 116.

(2) Koo and DiDomizio Fail to Teach or Suggest Producing a First Result Set and a Second Result Set by Querying a First and Second Table, Respectively

Applicants respectfully submit that Koo and DiDomizio, alone or in any rational combination, fail to teach or suggest all the elements of claim 116, including producing a first result set and a second result set by querying a first and second table, respectively. First, Applicants submit that Koo does not teach or suggest "producing a first result set by querying the first table using the set of SQL statements" and "producing a second result set by querying the second table using the set of SQL statements," where "querying

the first table and the querying the second table are performed without joining the first table and the second table."

Instead, Koo is directed to rewriting a query to eliminate at least one of tables that are used in an original query. An example of Koo's method performs a rewrite of the following join query:

> SELECT COUNT(*)
> FROM STARS ACCOUNT A, STARS.CUSTOMER C
> WHERE A.CUSTID = C.CUSTID AND A.BALANCE < 10
> Koo 5:5-10.

Koo's example join query operates on two tables, a CUSTOMER table, and an ACCOUNT table. Given the above join query, Koo performs an analysis to determine that the CUSTOMER table can be eliminated given the join conditions. *See*, Koo 5:11-22. After eliminating the CUSTOMER table, Koo rewrites the above query as the following:

> SELECT COUNT(*)
> FROM STARS ACCOUNT A
> WHERE A.BALANCE < 10
> Koo 5:22-25.

As a result, Koo teaches to delete at least one table and also to rewrite the original query to a simpler query that does not use the deleted table(s). In the example above, Koo teaches to delete the CUSTOMER table before either the original query or the rewritten query is performed. Therefore Koo cannot teach at least the element of "producing a second result set by querying the second table using the set of SQL statements," since the second table is deleted before either the original query or the rewritten query is performed on that second table. Therefore Koo does not teach or suggest at least these features of claim 116.

DiDomizio does not remedy the deficiencies of Koo. As mentioned above, DiDomizio is directed to create a database query by allowing a user to select components from which to create the database query. However, Applicants do not find any teaching or suggestions in DiDomizio that teach or suggest "producing a first result set by querying the first table using the set of SQL statements" and "producing a second result set by querying the second table using the set of SQL statements," where "querying the first table and the querying the second table are performed without joining the first table

and the second table." The Office Action also does not cite DiDomizio for this element of claim 116. Thus, alone or in combination with Koo, DiDomizio does not teach or suggest at least these features of claim 116.

(3) Koo and DiDomizio Fail to Teach or Suggest Joining the First and Second Result Sets to Produce a Third Result Set

Applicants respectfully submit that Koo and DiDomizio, alone or in any rational combination, also fail to teach or suggest all the elements of claim 116, including joining the first and second result sets to produce a third result set. First, Applicants submit that Koo does not teach or suggest the claimed "joining, using the processor, the first result set and the second result set to produce a third result set." On page 3, the Office Action cites a portion of Koo that is directed to a composite RI join (also referred to as a RI join predicate), where "each A row matches one B row, whereas each B row may match multiple A rows." *See* Koo at 6:39-43. In this particular example, Koo describes a query with a predicate of "A.FK1=B.PK1 and A.FK2=B.PK2." *See* Koo at 6:38.

However, in this example Koo is merely describing how to "form the RI joins between the parent and child tables." *See* Koo at 6:50-52. In other words, Koo appears to be describing how to perform a join of two tables, i.e., tables A and B. In contrast, clam 116 recites "joining, using the processor, the first result set and the second result set to produce a third result set," where the first result set is produced "by querying the first table using the set of SQL statements," and where the second result set is produced by "querying the first table using the set of SQL statements," and where the second result set is produced by "querying the second table using the set of SQL statements," and where the "querying the first table and querying the second table are performed without joining the first table and the second table." Applicants respectfully submit that in the cited portions Koo clearly teaches to join the two tables A and B, whereas claim 116 distinctly recites that "querying the first table and querying the second table are performed without joining the first table and the second table." Therefore Koo cannot possibly teach or suggest at least these features of claim 116.

Applicants submit that DiDomizio does not teach or suggest this element. Furthermore, DiDomizio is not cited by the Office Action for this element either. Thus, alone or in combination with Koo, DiDomizio does not teach or suggest at least these features of claim 116.

Since the combination of Koo and DiDomizio does not teach or suggest each and every feature of claim 116, the combination of Koo and DiDomizio cannot render claim 116 obvious. Furthermore, independent claims 128, 137, 146, and 155 are patentable over Koo and DiDomizio for similar reasons to independent claim 116, and further in view of their own features. Still further, claims dependent on independent claims 116, 128, 137, 146, and 155 are patentable over Koo and DiDomizio for at least the reasons provided for their respective base independent claims, and further in view of their own features. Accordingly, Applicants respectfully request that the rejection of claims 116-163 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

CONCLUSION

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance without any further examination and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicants hereby petition for such extensions. Applicants also hereby authorize that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to Deposit Account 502306.

Respectfully submitted,

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